

[NOVEL ELECTRICALLY ACTIVE IONIC POLYMER METAL COMPOSITES AND NOVEL METHODS OF MANUFACTURING THEM]

Abstract of Disclosure

Novel electrically active ionic polymer metal composite materials and novel methods of manufacturing them by means of a series of innovative chemical processes of first chemically depositing none noble metal salt cations inside a cationic polymer molecular network followed by chemical reduction of the said none noble metal salt cations to generate reduced none noble metal particles deposited inside the polymeric molecular network followed by a second electro or chemo deposition and plating of a noble metal inside and on the surfaces of the reduced none noble metallic particles in the said polymer molecular network to protect the first said none noble metal particles from oxidation, corrosion and chemical degradation for prolonged sensing and actuation applications of the said novel ionic polymer metal composite material which generates an electrical signal with mechanical deformation and undergoes mechanical deformation if an electric field is imposed on it.

Figures